

INTERNATIONAL HALON REPLACEMENT WORKING GROUP MEETING

APRIL 21-22, 1999

Hosted by Boeing Commercial Airplane Group, Seattle, Washington

Wednesday, April 21, 1999

FAA Cargo Compartment Presentation and Discussion – D. Blake

Cargo MPS:

Bulk Load Test- Gave explanation of pass/fail criteria for bulk load cargo MPS test (an explanation of the temperature/time maximums required in the MPS).

Containerized Test - Gave explanation of pass/fail criteria for containerized cargo MPS test. This same approach was taken with the bulk load test criteria for maximum allowable temperature and maximum allowable time-temperature area.

Question from group on size of container required. The size required is 1,000 cubic feet.

Presented a graph that showed a better definition of the times required in the MPS. This graph will be included in the MPS available on the FAATC Fire Safety Section website at www.fire.tc.faa.gov.

B Tapscott: what is the timeline on this MPS? D. Blake: End of September.

F. Stossel: Is the time required for the test feasible for the cargo liner?

D. Blake: There should not be a degradation problem with the liner.

Question from group: Is there any reason to take more than one reignition spike into account? D. Blake: The area under the curve takes this into account.

Is the 10% agent sensitive or quantity sensitive? D. Blake: It really isn't either one.

Yulian Nozzle Nitrogen/Water Mist Nozzle:

John Reinhardt at the Technical Center conducted some tests with Andreyev Acoustics Institute in Moscow that had teamed up with Newlink Global Engineering Corporation. This is a low pressure, dual fluid system. Dave presented results of the tests conducted at the FAATC for bulk load and containerized tests. Dave indicated that additional tests would be conducted using this system in the future (the company proposed to return to the Technical Center during summer 1999 to conduct additional tests). Dave presented some comparison data from some water spray tests previously conducted at the FAATC by Tim Marker in conjunction with Hughes Associates/Reliable High Pressure Water Spray.

Characterization of An Aerosol Explosion:

John Reinhardt is working on the criteria for the Aerosol Can Explosion Simulator for the MPS. Dave explained the tests John has conducted at the FAATC and the design of the simulator. The test sequence was outlined. Results of aerosol can and simulator tests were presented. John will be conducting additional tests.

F. Stossel: Does it make sense to use the most severe mixture in the simulator?

D. Blake: The U.S. DOT has a standard against straight (100% propane) propane use as a propellant. Member question: Have you tried a Butane mix? D. Blake: No, we have not tried that yet.

Cargo Compartment Smoke & Fire Detector Testing – D. Blake

Dave presented Cargo Smoke Alarms U.S. Fleet data taken from Service Difficulty Reports (SDRs) 1974-1997. The incidence of false alarms to real alarms is pretty significant. Dave presented a graph of data showing Cargo Compartment False Positive Alarms from SDRs 1974-1997. Dave presented a graph showing the Diversions Caused by False Alarms (taken from SDRs) 1974-1997. The FAA is working to better define the criteria of what should be detected (type of fire, amount of smoke produced in conjunction with reduction of oxygen, etc.).

R. Mazzone: How do you see this affecting the MPS for the cargo compartment?

D. Blake: I don't see this affecting the cargo compartment MPS at all. This is more for the certification of detection systems. Various factors play a role in creating false alarms: dust, humidity, etc. We plan to have some definition of the type of fire, smoke, etc., to be detected by the end of September.

Cargo Compartment Halon 1301 Simulant:

Doug Ingerson presented work done by John Reinhardt at the FAATC on finding a Halon 1301 Simulant. John conducted 57 tests. Doug presented results of these tests. John's test results concluded that SF6 was a better simulant to replace Halon 1301 than HFC-125 for cargo compartment fire suppression systems. A copy of this presentation can be found on the FAATC Fire Safety Section website under the November 1998 International Aircraft Fire and Cabin Safety Research Conference proceedings.

Engine Nacelle Testing – D. Ingerson

Engine MPS:

The working draft of the Engine MPS will be posted to the FAATC Fire Safety Section website by the beginning of May. Doug plans to have the Engine MPS finalized by the end of 1999.

Current Simulator Status:

Doug presented a schematic of the engine nacelle simulator at the FAATC and explained the status of the project.

Gas Analysis:

Doug explained his study on Halonizer results differences.

Halon 1301 Certification:

Doug presented data collected on HFC-125 and Halon 1301 Channel for Channel Comparison tests. Presented HFC-125 simulation of a Halon 1301 distribution conducted April 20, 1999.

Status of Handheld Extinguisher MPS:

Harry Webster has posted the current version of the Handheld Extinguisher MPS on the Fire Safety Section website. The details of this presentation can be found on the Fire Safety Section website. The Seat Fire Toxicity test is still under discussion. D. Catchpole: Harry may want to include some other toxicity factors. What other toxic gases are included in the ERPG? D. Blake: The ERPG probably covers other toxic gases as well. I am sure that Harry has considered others. R. Mazzone: Does Handheld MPS consider the use of different nozzles? Some products only work with certain types of nozzles. D. Blake: I believe that a UL standard will be required for the hardware. B. Tapscott: What is the Handheld MPS timeline?

Status of In-Use Lavatory Extinguisher MPS- D. Blake

Pacific Scientific and Walter Kidde have used this MPS, and it does work. FM200 and Envirolgel are being used for Lavatory Extinguishers.

Halon Options Task Group Update- B. Tapscott

The next update of the Options to the Use of Halons for Aircraft Fire Suppression Systems—1999 Update will be sent to the FAATC by May 31, 1999. The update may be reviewed on the NMERI website: <http://nmeri.unm.edu/cget/ihrwg.htm> or via link through the FAATC Fire Safety Section website www.fire.tc.faa.gov. If anyone has comments on this update, get them to Bob Tapscott as soon as possible.

Class 'D' to Class 'C' Cargo Compartment Conversion – D. Blake

Open for group comments.

Montreal Protocol Update – D. Catchpole

The European Union is going to ban the import and export of Halons-- products containing Halons will not be included in this. However, no explanation of what this means has been defined. No definition of the types of products excluded has ever been given.

Hydrostatic Test Task Group – Hans Humfeldt

There has not been very much progress in this Task Group. Bill Meserve can provide Hans Humfeldt and Dave Blake with the name of the DOT contact. The ATA members were given an exemption to do hydrostatic testing every 14 years. There is a new method that ATA members only are allowed to use. FAATC will follow up with the Navy to see what information they have available on hydrostatic testing and if they have done recent testing. The FAATC will look for a new Task Group leader for this group. The Regional Airline Association also got an exemption from the DOT. Hans will ask his successor at Lufthansa and the other members of Task Group to see if anyone else will chair this Task Group upon his retirement and get response to April.

Future Meetings Discussion

Attendee consensus: 2 meetings per year are useful. The timing of the next meeting would best be October 1999, since a couple of milestones are due at the end of September 1999.